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#### Abstract of the Disclosure

0041 A reactive pre-clean chamber that contains a wafer heating apparatus, such as a high-temperature electrostatic chuck (HTESC), for directly heating a wafer supported on the apparatus during a pre-cleaning process. The wafer heating apparatus is capable of heating the wafer to the optimum temperatures required for a hydrogen plasma reactive pre-clean (RPC) process. Furthermore, degassing and pre-cleaning can be carried out in the same pre-clean chamber. The invention further includes a method of pre-cleaning a wafer using a pre-clean chamber that contains a wafer heating apparatus.